

SECTION 6

INTRUSIVE INVESTIGATION PLAN

6.1 PURPOSE

This intrusive investigation plan identifies the procedures that will be used for the excavation and identification of single point anomalies by the safest and most cost-effective means possible as a means to positively determine the nature of the anomalies identified during the geophysical investigation.

6.2 OBJECTIVE

The intrusive investigation will be conducted to locate, identify, and dispose of OE found at the project site. The plan has two main objectives: 1) to safely and efficiently excavate, identify, and document OE; and 2) to dispose of hazardous OE items.

6.3 DELINEATION OF RESPONSIBILITIES

6.3.1 Effective management demands that each unit have a clear understanding of its role and responsibilities within the organization. Parsons ES, as the prime contractor, will ensure compliance with this Work Plan.

6.3.2 Moreover, Parsons ES will coordinate with USAESCH on contract matters. Responsibilities of the prime contractor and sub-contractors during the investigation phase include:

Parsons ES will:

- ?? Coordinate with USAESCH for government furnished equipment, if required;
- ?? Request emergency services when needed;
- ?? Submit a record of all excavated anomalies, to include location of contact, instrument readings; and
- ?? Make recommendations for any follow-on remedial actions for the wooded site in an EE/CA document.

Geo-Centers, Inc. will:

- ?? Locate the 89 anomalies previously identified during the geophysical survey by paint marking on the ground; and
- ?? Provide dig sheets showing the approximate anomaly locations to both UXB and Parsons ES.

UXB, Inc. will:

- ?? Excavate the anomalies identified by Geo-Centers;
- ?? Perform minimal selective pruning of inaccessible areas;
- ?? Perform disposal procedures on potentially hazardous OE/UXO that contain explosives in place;
- ?? Provide all explosives and associated equipment for explosive disposal of potentially hazardous OE/UXO;
- ?? Maintain an on-site interim holding magazine for storage of demolition materials. The demolition materials will be stored in two of JPG's standard construction, earth-covered ammunition storage bunkers, known as Buildings 268 and 270. These buildings meet the requirements of Section 29.A.23 of EM 385-1-1 and DA Pam 385-64 for the storage of explosive materials and have been approved by USAESCH for the storage of explosive materials under UXB's CONUS cleanup contract for JPG.
- ?? Make recommendations to Parsons ES on disposition of OE/UXO (e.g., blow-in-place, disposal, or refer to USAESCH for further instruction);
- ?? Haul all debris from the site to an approved disposal site with appropriate documentation; and
- ?? Complete the DD Form 1348-1A for all material turned in to the DRMO. If a DRMO is unavailable, the material recovered during the intrusive investigations shall be turned in to a locally approved scrap dealer. All turn-ins shall be accompanied by a certificate signed by the Senior UXO Supervisor.

USAESCH will:

- ?? Coordinate Technical Escort Services should Chemical Warfare Materiel (CWM) or other toxic substance be encountered; and
- ?? Provide technical guidance and direction on unforeseeable issues that arise but are not addressed in the work plan.

6.4 PROCEDURES

6.4.1 Communications. A reliable communication link between all field teams will be maintained during field operations. Teams experiencing communications failure will cease work until

communications are restored. Communications at the site will be achieved with portable handheld radios and telephone.

6.4.2 Handheld radios will be used to maintain communications between field personnel. Radios will be the first choice of communications in case of an emergency. Radios will be checked each day immediately following the morning safety meeting and prior to departing for the work site.

6.4.3 A regular telephone will be used for communication between the field office located at Building 125 and off-site personnel. Emergency telephone numbers will be maintained in UXB's project office in Building 125. The telephone located at Building 125 will be the primary form of communication between the project team and outside agencies.

6.4.4 Emergency Contacts. In the event that a Render Safe procedure is required, USAESCH will be contacted which will make the necessary arrangements with the local emergency response agencies. Upon discovery of UXO/OE:

?? UXB will notify:

Parsons ES Project Manager
Robert Menke
(703) 218-6288

Parsons ES Assistant Project Manager
Randy Adams
(703) 218-6291

?? Parsons ES will notify:

USAESCH Site Safety Representative

?? In the event of other emergencies, the following organizations may need to be contacted:

City Fire Department:

Ryker's Ridge Volunteer Fire Department
911 or (812) 265-4326

Police/Ambulance:

Madison Police Department
911 or (812) 265-2648

Medical Emergency Medical/Ambulance:

King's Daughter's Hospital
Madison, IN
(812) 265-5211

6.5 STATEMENT OF WORK

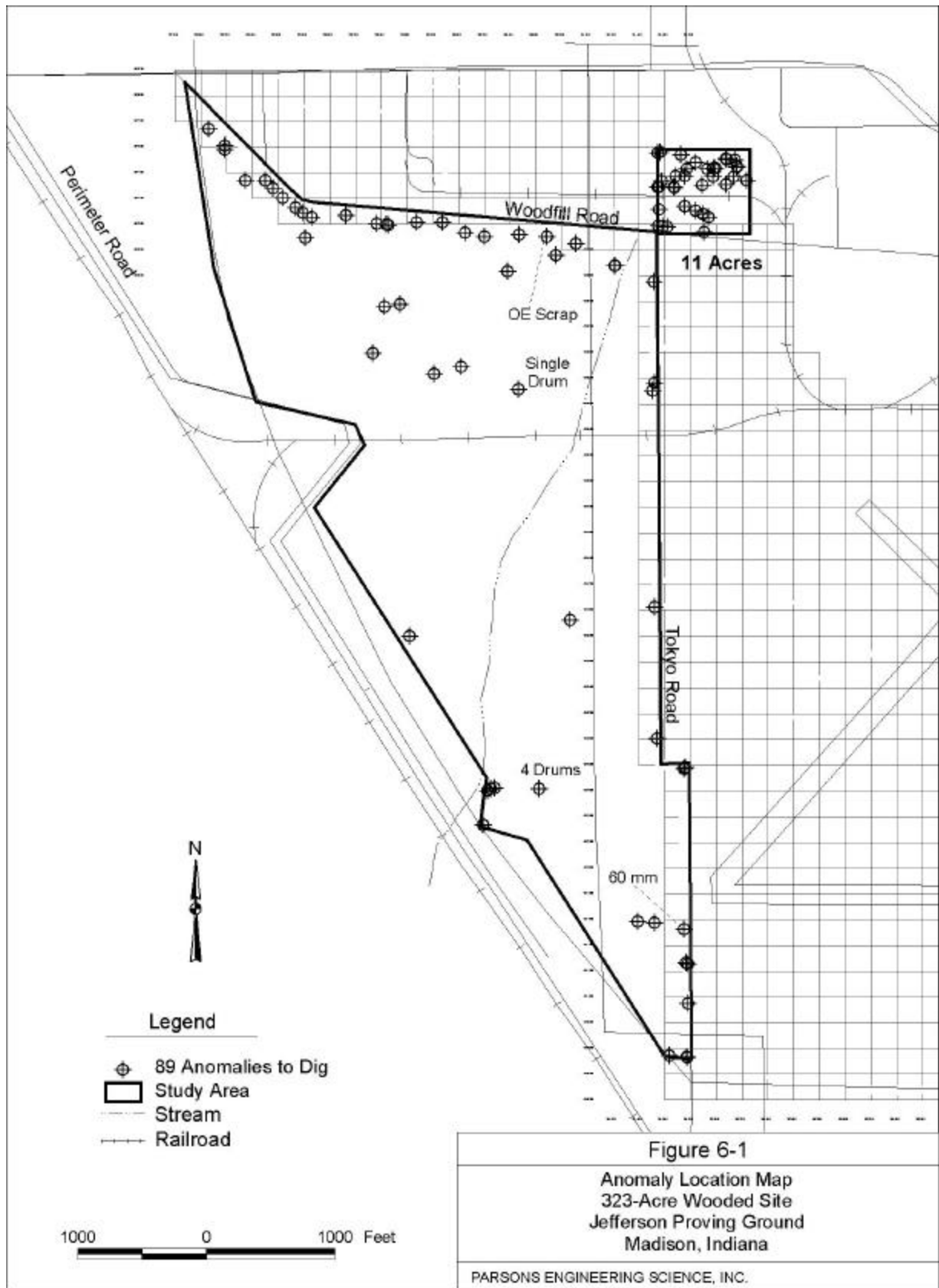
UXB will excavate anomalies to a depth of 4 feet. The depth limitation may be extended by either the on-site OE Safety Specialist or by CEHNC-OE-DC-B. The corrective actions taken to eliminate UXO hazards will be in accordance with the guidelines contained in the previously approved Work Plan prepared by UXB for intrusive operations conducted on the site. On-site disposal of UXO will be performed by UXB. Intrusive activities will follow as close as practical behind the relocation of the anomalies conducted by Geo-Centers. The approximate locations of the 89 anomalies that will be intrusively investigated by UXB are shown in Figure 6-1. UXB will conduct its activities in accordance with the Safety Concepts and Basic Considerations for UXO Operations as issued by the US Army Corps of Engineers, Huntsville Center, dated 16 February 1996.

6.6 APPROACH

6.6.1 All items recovered during the intrusive investigations will be identified. A determination will be made whether or not any recovered OE items are hazardous. Any OE items deemed to be hazardous will be blown in place in accordance with the procedures identified in UXB's approved Work Plan.

6.6.2 Prior to any detonations, the location of all underground utilities will be reviewed for possible damage due to the ground shock wave.

6.6.3 The location of the explosive storage facility and approach that will be used in the handling and destruction of any recovered OE and/or UXO will be in accordance with UXB's approved JPG Work Plan. This Work Plan was approved to conduct OE/UXO clearance



activities at the site under UXB's CONUS Cleanup Contract (Contract Number DACA87-97-D0006 / Delivery Order Number 0002).

6.7 UXO INVESTIGATION PROCEDURES

6.7.1 Anomalies previously identified by Geo-Centers during their geophysical survey of the site will be relocated by Geo-Centers for intrusive investigation by UXB. Geo-Centers will relocate 89 anomalies and identify the location of the anomaly by spray-painting a two-foot diameter circle on the ground. The anomaly will be located in the center of the spray-painted circle. In addition, Geo-Centers will mark the nearest tree to the anomaly location with a colored ribbon so that the anomaly location may be more easily reacquired by the intrusive investigation team.

6.7.2 UXB will intrusively investigate the 89 anomalies identified by Geo-Centers in accordance with the procedures already established in their approved Work Plan to perform UXO clearance activities at the site. UXB will investigate the anomalies to a depth of four feet. If excavation deeper than four feet is required, Parsons ES will request a decision from the on-site OE Safety Specialist. Parsons ES will also coordinate the activities of Geo-Centers and UXB and maintain a record of the results of the intrusive investigation. Parsons ES will tabulate the results of the intrusive investigations into an Excell spreadsheet. Included in the spreadsheet will be the actual location of the recovered item, its description, depth, size, mass, and any other pertinent information that would aid in classifying the anomaly.

6.7.3 All access, excavation, detonation holes will be backfilled and returned to its natural state. All detonation holes will be lined with a geotextile fabric prior to backfilling.

6.7.4 If a scenario is encountered where an unidentifiable UXO is located or a suspected toxic chemical munition is encountered, or a situation occurs which prevents detonation in place, the on-site OE Safety Specialist or USAESCH Safety Office will be notified, who will in-turn, request the appropriate support.

6.7.5 Parsons ES will develop a statistically-based UXO density estimate for each sector using the USAESCH-supplied software *UXO Calculator*. The UXO density estimates and sector boundaries will be determined based on the results of the intrusive investigations.

6.8 QC PROCEDURES

Upon completion of the intrusive investigations within an area, a representative of Parsons ES and UXB will perform a QC check of each intrusively investigated anomaly. During this QC check the area intrusively investigated will be geophysically swept to ensure that the item causing the anomalous reading had, in fact, been removed. The Parsons ES representative will record the results of each intrusive investigation and provide a copy to Geo-Centers upon completion of the intrusive investigations. All other QC procedures that will be employed during the field investigation will be conducted in accordance with UXB's approved JPG OE clearance Work Plan.